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ABSTRACT

The purpose of this study was to develop a valid, reliable test to measure the knowledge of elementary school teachers about venereal disease. Recommended scientific test construction procedures were carefully followed. These included the development of a content outline and a table of specification; submitting potential test items to a review panel; revision of items and initial administration of the test; item analysis, revision, and a second administration; and the item analysis and revision which resulted in the "Schmidt VD Knowledge Evaluator." This test consists of 45 multiple-choice items related primarily to syphillis and gonorrhea, with some items related to the other venereal diseases. Test construction procedures assure face validity, and the Kuder-Richardson formula estimates reliability to be 0.79. The instrument would be useful as a pretest and/or posttest for inservice programs, workshops, and seminars for teachers, school nurses, or any similar group. (The "Schmidt VD Knowledge Evaluation" is included.) (Author)

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DEVELOPMENT OF AN INSTRUMENT TO EVALUATE THE KNOWLEDGE OF ELEMENTARY TEACHERS ABOUT VENEREAL DISEASE

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Public health officials, private physicians, and health educators alike are concerned about the epidemic rates of veneral disease, especially gonorrhea and syphillis. Of particular concern are the large numbers of young people who are infected. Most authorities in these fields agree that education about the diseases is one of the essential keys for prevention and control. However, research indicates two major shortcomings in venereal disease education: 1) teenagers do not receive an adequate foundation in sexual information, including the venereal diseases; 2) teachers have not been adequately prepared to provide venereal disease information.

In 1972, the National Commission on Venereal Disease[1] recommended that venereal disease education should be included in all school curricula no later than grade seven. Included in this recommendation was the suggestion that this education be a part of the health science class.

In many schools the elementary classroom teacher is the person responsible for health science instruction. Empirical evidence seems to suggest that many of these teachers are not

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adequately prepared to provide venereal disease information in the 6th or 7th grade classroom. Efforts to scientifically test the accuracy of such an opinion has been thwarted by the lack of an adequate venereal disease knowledge evaluation instrument for elementary teachers. Therefore this study was designed to scientifically construct a valid, reliable test to measure the knowledge of elementary school teachers about venereal disease. Such an instrument would not only be useful as a research tool but could also provide basic information for planning workshops, seminars, and in-service programs.

Developing the Instrument

Prior to writing the items for the instrument, instructional objectives and an outline of factual information about venereal disease were compiled. Information included in the outline was related to the following areas: incidence, etiology, mode of transmission, symptoms, diagnosis, treatment epidemiology, and prevention of both syphilis and gonorrhea. Information related to other venereal diseases was also included. The content outline was based on information from current health education textbooks, publications by federal and state agencies, and other medical sources.

A pool of preliminary multiple-choice items was prepared and submitted to a panel of health professionals. The panel reviewed each item for content validity, accuracy and clarity. The items were then revised to meet the panel's recommendations and a preliminary instrument of 65 items was compiled.

The preliminary instrument was administered to 100 elementary teachers. The subjects included only those individuals teaching in grades K-6. An item analysis to determine item difficulty and discrimination indicated that 35 items were questionable. It seemed impossible to satisfactorily revise 15 of the items so they were deleted. Twenty items were revised and combined with the remaining thirty items to form the revised instrument.

The revised instrument was administered to a second group of 108 subjects from the same area. These elementary teachers were also from grades K-6. The statistical procedures applied to the preliminary instrument were again utilized following the second administration. The item analysis indicated that fourteen items were questionable. After careful consideration, nine of these items were retained for their content and five were deleted. The remaining forty-five items were combined and carefully compared with the instructional objectives to assure that content validity was unchanged. These forty-five items became the final instrument. Using the Kuder-Richardson formula,[2] a reliability coefficient was computed at 0.79. The mean score for the final instrument was 23.5 correct answers out of a possible 45 or 52 percent. The range of raw scores was from seven to thirty-six correct answers. Forty-one subjects scored below the mean and 56 scored above.

Summary and Recommendations

This study was limited to the investigation of those persons

teaching in grades K-6. It was further limited to the medical and physical aspects of syphilis and gonorrhea. Having followed the recommended procedures for test construction, within the above limitations, a valid and reliable instrument was devised to assess venereal disease knowledge of teachers. This instrument is called the Schmidt Venereal Disease Knowledge Evaluator.* The following are recommendations for possible future uses and refinement of the instrument:

a. It is recommended that the test be given to a larger sample of elementary teachers and norms be established.

b. It is recommended that the instrument be tested for validity and reliability in measuring the knowledge of secondary school teachers about venereal disease.

c. The subjects in this study were teachers from the public schools. It is recommended that future investigation include teachers from private and parochial schools, at both the elementary and secondary levels.

d. It is further recommended that the results of all future investigations be forwarded to state departments of education and health for use as guides for planning workshops, in-service education programs and seminars.

e. It is also recommended that the instrument be used to evaluate the knowledge of those students enrolled in teacher education programs about venereal disease. The results could then be used as a guide for providing venereal disease information before completion of teacher preparation programs.

* Single copies of the Schmidt VD Knowledge Evaluator may be obtained upon requrest from the author: Gayle Schmidt, Department of Health and Physical Education, Texas A&M University, College Station, Texas 77843.

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Schmidt VD Knowledge Evaluator

1. Untreated gonorrhea in a woman may cause which of the following conditions?

   a. Frigidity
   b. Dysmenorrhea
   c. Sterility
   d. Amenorrhea

2. The contraceptive measure having the greatest potential to prevent VD is the

   a. contraceptive pill
   b. douche
   c. IUD
   d. condom

3. The most common venereal disease is:

   a. syphilis
   b. chancroid
   c. gonorrhea
   d. granuloma inguinale

4. Which of the following would be more likely to be a cause of insanity, if not treated?

   a. Syphilis
   b. Gonorrhea
   c. Chancroid
   d. Lymphogranuloma venereum

5. The infant who has syphilis at birth has contracted it from:

   a. the father who had syphilis at the time of conception
   b. the mother who had syphilis at the time of conception and was treated
   c. the mother who had syphilis during pregnancy and received no treatments
   d. the presence of the organism in the birth canal during delivery

6. Which of the following is the most effective treatment for both syphilis and gonorrhea?

   a. Treat for symptoms
   b. Mercury based drugs
   c. Penicillin
   d. Hormones

7. To be sure that one is examined for gonorrhea, the best way is to

   a. ask for a complete physical exam
   b. ask for a pelvic exam
   c. tell the physician about symptoms which might suggest venereal disease
   d. tell the physician gonorrhea is suspected

8. How can a physician be reasonably sure that a person has syphilis?

   a. Recognition of the clinical symptoms of the disease
   b. A positive blood test
   c. A culture of discharge from the penis or vaginal area
   d. A positive blood test plus other tests, symptoms, and history or contact with an infected person

9. The first sign of syphilis occurs between 10 and 90 days after infection. It is located on what part of the body?

   a. On or around the genital organs
   b. At the site where the bacteria entered the body
   c. At the nearest body opening
   d. Anywhere

10. Syphilis can be cured

    a. at any time during the disease and no damage will be done
    b. at any time, but the damage already done will remain
    c. only in the first month after innoculation
    d. at no time

11. Which of the following venereal diseases can cause the most serious damage if it remains untreated?

    a. Syphilis
    b. Gonorrhea
    c. Chancroid
    d. Lymphogranuloma venereum

12. A person with syphilis may transmit the disease to others

    a. only when a discharge is visible
    b. only when a chancre is visible
    c. only while infectious
    d. only when a rash is visible

13. Ideally, the most effective way to prevent the spread of syphilis would be to treat all those persons

    a. who have a positive blood test
    b. who have visible symptoms
    c. who have had contact with a person having infectious syphilis
    d. who plan to marry

14. The female with gonorrhea

    a. usually feels pain on urination within a week after innoculation
    b. usually knows nothing about the infection for a long time
    c. notices a chancre
    d. has a heavy, foul-smelling vaginal discharge

15. Assuming both are in good health and have an equal opportunity for exposure to gonorrhea, who would be the most susceptible?

    a. Men
    b. Women
    c. Both would be equally susceptible
    d. The person who had just recovered from another venereal disease

16. Silver nitrate, or other approved medication, is placed in the eyes of all newborns to prevent blindness caused by

    a. syphilis
    b. gonorrhea
    c. any vaginal infection
    d. both syphilis and gonorrhea

17. Of the following groups of diseases, which are venereal diseases?

    a. Chancroid, lymphogranuloma venereum, and granuloma inguinale
    b. Syphilis, gonorrhea, and hepatitis
    c. Gonorrhea, syphilis, and rubella
    d. Gonorrhea, shigellosis, and syphilis

18. The blood test required by most states prior to marriage is to determine the presence of which of the following diseases?

    a. Gonorrhea
    b. Syphilis
    c. Chancroid
    d. Both syphilis and gonorrhea

19. Which of the following procedures is most likely to indicate a need for treatment for syphilis?

    a. A routine physical examination
    b. A pap smear
    c. A blood test such as the VDRL
    d. A culture of vaginal discharge

20. The usual incubation period for gonorrhea is

    a. 3-9 days
    b. 14-21 days
    c. 6 weeks
    d. 3 months

21. In most states, including Texas, teenagers who suspect that they have one of the venereal diseases may receive treatment

    a. only with parental consent
    b. without parental consent
    c. and parents must be notified
    d. only if accompanied by parents

22. The signs and symptoms of primary syphilis

    a. are often hidden and painless
    b. are often hidden but painful
    c. are painful for both men and women
    d. include loss of patches of hair, rash, and sore throat

23. When is untreated syphilis most likely to cause extensive damage to the body of the infected person?

    a. Before he is infectious
    b. While he is infectious
    c. Before the symptoms are evident
    d. After he is no longer infectious

24. The individual who has infectious syphilis

    a. cannot have gonorrhea at the same time
    b. develops immunity against reinfection
    c. can be infected with gonorrhea at the same time
    d. cannot infect others

25. Gonorrhea is

    a. a mild form of syphilis
    b. the most serious form of syphilis
    c. not related to syphilis
    d. the most serious venereal disease

26. If not treated, when the chancre of syphilis disappears, the individual

    a. still has syphilis
    b. no longer has syphilis
    c. no longer has syphilis but gonorrhea may develop
    d. is immune to syphilis

27. The first symptom of syphilis for both the male and female is usually

    a. a generalized rash
    b. a sore throat
    c. a single, hard open lesion
    d. a discharge from the genital area

28. Gonorrhea is caused by which of the following:

    a. A virus
    b. Body strain
    c. Specific bacteria
    d. A fungus

29. A woman suspects she may have been infected with gonorrhea. The wisest thing for her to do is

    a. wait until symptoms appear
    b. visit a doctor and request a blood test
    c. visit a doctor and ask to be examined for gonorrhea
    d. ask a physician for a pelvic examination

30. The presence of a small, hard, painless lesion in the genital area might indicate which of the following diseases?

    a. Gonorrhea
    b. Lymphogranuloma venereum
    c. Syphilis
    d. Granuloma inguinale

31. Syphilis and gonorrhea

    a. can infect the same individual at the same time
    b. are two forms of the same disease
    c. can be transmitted in food, air and water
    d. are both incurable diseases

32. Congenital syphilis

    a. is inherited
    b. will occur in several generations
    c. is acquired during late pregnancy
    d. is acquired during the birth process

33. Control of syphilis requires the reporting of names of intimate sexual contacts

    a. for at least one week after appearance of symptoms
    b. for at least one month after innoculation
    c. for at least 3 months prior to visible signs of the disease
    d. for at least 6 weeks after the appearance of symptoms

34. State law requires a blood test during early pregnancy to detect

    a. syphilis
    b. gonorrhea
    c. blood type of the expectant mother
    d. anemic conditions of the mother-to-be

35. Which of the following is a symptom of gonorrhea in men?

a. a pus-like discharge from penis
b. intense pain during sexual intercourse
c. impotency
d. an open lesion

36. The chancre is the first symptom of

a. gonorrhea
b. chancroid
c. syphilis
d. granuloma inguinale

37. Syphilis may be transmitted to others

a. only during the first month after innoculation
b. as long as the person is infectious
c. only when the symptoms are visible
d. only during sexual intercourse

38. On whom will the chancre be most likely to be located where it may go undetected?

a. Men
b. Women
c. Both men and women
d. Neither men nor women

39. A form of mental illness which is the result of long-term syphilitic infection is

a. hysteria
b. melancholia
c. paresis
d. schizophrenia

40. Sooner or later, everyone infected with syphilis will have

a. a sore throat
b. loss of hair
c. a positive blood test
d. a rash

41. A rash, 3 to 6 months after contact with an infectious person; may be symptomatic of which of the following venereal diseases?

    a. Syphilis
    b. Gonorrhea
    c. Chancroid
    d. Granuloma inguinale

42. The spirocete, Treponema pallidum, is the causative organism of which of the following diseases?

    a. Syphilis
    b. Gonorrhea
    c. Yaws
    d. Chancroid

43. "Clap" and "dose" usually refer to which of the following diseases?

    a. Syphilis
    b. Gonorrhea
    c. Infectious mono
    d. Trichomonal infections

44. The newborn child may contract gonorrhea by which of the following ways?

    a. Gonococci crossing the placental barrier
    b. Unclean conditions during pregnancy
    c. Exposure to the gonococci during the birth process
    d. A vitamin deficiency during pregnancy

45. Which of the following will most often result from untreated gonorrhea in the male?

    a. Inability to have sexual intercourse
    b. Sterility
    c. Arthritis
    d. Bladder infection